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Migratory Shore and Upland Game Bird Working Group

Spring Meeting Minutes - 2000

International Association of Fish and Wildlife Agencies
Rosemont, Illinois
March 25, 2000

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INTRODUCTION

These minutes were prepared by David Dolton from a taped recording of the meeting and from reports submitted by several speakers. They are meant to be a summarization of the discussions rather than a verbatim transcription of all presentations. Chairman Ron George (TX) opened the meeting at 8:00 a.m.

NAME CHANGE

Ron George reported that current IAFWA President, David Waller, had changed the names of various groups. Our Subcommittee is now called a Working Group. Initially, the Migratory Wildlife Committee was renamed the Migratory Birds Committee, but that group decided to keep their original name.

WMGBR REVIEW COMMITTEE

Robert Boyd (PA), Chairman of the Webless Migratory Game Bird Research (WMGBR) Review Committee, reported on the projects selected for funding in 2000 through the WMGBR Program. As last year, there was $150,000 available for the program. Two projects were approved (**Attachment 1**). A motion by John Frampton *to accept the recommendations of the Research Review Committee* was passed unanimously.

Also, Bob stressed that many researchers have discontinued submitting proposals because they see only a few projects being funded, and those are funded at a low level. For the WMGBR Program to succeed in providing much-needed information for webless game

Cover photos: Top—Sandhill cranes (*Photo by Roy Tomlinson*). Left—Semi-palmated sandpipers (*Photo by Paul Fusco*). Right—Mourning dove (*Photo by David Dolton*). Bottom—American woodcock (*Photo by Dan Dessecker*).

species, the Program needs to be fully funded. Bob *moved that the IAFWA, the Migratory Wildlife Committee, and the MSUGB Working Group request that the USFWS fully fund the WMGBR Program at $750,000 annually as originally established* **(Attachment 2)**. Gary Myers (TN) said that the shorebird people have come up with a recommended funding level to conduct a certain amount of monitoring nationwide for shorebirds, songbirds, and waterfowl that they submitted to a committee dealing with migratory bird funding. Jamie Clark (Director, USFWS) and David Waller (GA; President, IAFWA) are on this committee. Their goal is to have a funding level needed that, in essence, if the country cares about birds, they will at least do a certain amount of monitoring. Gary suggested doing the same thing for research and get the support of the other bird groups. This is something that cannot be done immediately, but is a target to shoot for down the road. Ron responded that he will appoint a group to develop this need and bring it forth as a national issue. The motion passed unanimously. [Subsequently, a motion to support this recommendation was passed by the Migratory Wildlife Committee.]

HARVEST INFORMATION PROGRAM

Paul Padding (USFWS) reminded us that he told the group last September that the first full year of implementation in 1998 didn't go too well. Results were not good for a number of reasons due to problems with contractors and states, and also within his office. Paul stated that he didn't have the staff or proper equipment to do the job correctly and these shortcomings are reflected in some of the surveys. In some cases, the sample sizes are too small or the sample frame was low so the expansion factors were not correct. Consequently, the total birds bagged were incorrect, but hopefully the bag/hunter information should match fairly well with similar information from state surveys.

In contrast, Paul expects the major problems have been corrected for 1999. All the states all did an excellent job of providing quality data in a timely manner and Paul now has the needed equipment and staff to determine sample sizes and conduct the surveys. All the surveys were completed exactly according to design and they are obtaining decent response rates for a change. Preliminary 1999 results should be available in June.

Next, Paul discussed the Ad Hoc HIP Evaluation Committee that was established after the March 1999 meeting. Initially, the idea was to get the evaluation completed as quickly as possible after 2 years of full Nationwide implementation. Now, however, the idea is to complete the evaluation as soon as possible so any changes that need to be made can be undertaken before the entire system is "carved in stone" in both hunters' and license agents' minds. It was evident that a coordinator was necessary to keep the entire effort moving and to make sure all of the evaluations and analyses are completed in a timely manner. Consequently, the IAFWA hired Richard (Dick) Elden to be the coordinator.

Dick reported that the first meeting was held on March 23rd here at the hotel. Jeff Ver Steeg chaired the meeting with 24 people in attendance. **Attachment 3** is the minutes of this meeting. Dick will send periodic updates to all interested parties. The next full meeting will be in September.

Jeff Ver Steeg (IL) thanked the IAFWA for their support. He also thanked Vernon and Paul for the work they did before he took the assignment. They have an ambitious agenda and hope to complete the tasks by March 2001. However, they will ask for more time if needed. Committee members have been hand-picked so as to obtain people with diverse backgrounds and expertise. Assignments have been made and everyone is optimistic. Paul Padding stressed that many MSUGB Working Group members will be asked to help obtain information. Jeff added that Working Group members should inform their licensing folks of the evaluation and ask them to respond to questions in a timely manner.

David Sharp (USFWS) asked Paul if he had any idea how much longer there will need to be an overlap in surveys for waterfowl using HIP and the "old" survey, i.e., when can waterfowl harvest be surveyed exclusively with HIP. Paul responded that he did not know at this time. Part of the answer depends on what the Ad Hoc Committee finds. Dave then asked if resources are available to make sure we have a good waterfowl survey until we switch to HIP. Paul said he is not as worried about the resources as he is with problems with the survey itself. The quality of the Duck Stamp data are declining rapidly since problems with the U.S. Postal Service are increasing, especially in the last year. Dave added that maybe there needs to be a greater urgency to get HIP fully functional.

PROPOSED REGULATION OF ALL MIGRATORY GAME BIRDS THROUGH FOUR FLYWAYS

Pat Ruble (OH) prefaced his comments by stating that he didn't feel the Working Group should take any action on this issue, but he wanted everyone to be aware of the situation. Specifically, he was concerned about the Southeastern Association of Fish and Wildlife Agencies' (SEAFWA) request to have their own Consultant for doves at USFWS Service Regulations Committee (SRC) meetings. If this request is approved, some of the of the states could end up with more than 1 Consultant at SRC meetings and may pose some problems if all the Consultants were not given the same directives. This could happen since the upper Mississippi Flyway states now give their Consultant authority to discuss dove issues. In contrast, the Consultant for the southern states in the flyway does not have authority to discuss dove issues. Pat supported the recent move in the Southeast to expand the dove technical committee to include all states in the Eastern Management Unit (EMU) and definitely wants all states in the EMU to be represented on dove issues.

Ron applauded the efforts being made to expand the Southeastern Dove Technical Committee and reiterated that he thought it would be inappropriate for our group to take any action.

Roy Grimes (KY) reported that he has recently been designated Chairman of the Southeast Dove Technical Committee (SEDTC). Tom Bennett, Commissioner [Director] of the Kentucky Department of Fish and Wildlife Resources is the new Chairman of the SEAFWA Directors' Dove Coordinating Committee. He hopes that the SEDTC will grow into an EMU Dove Technical Committee. Roy reminded everyone that the SEDTC has long been recognized as an important force in dove issues in the East and has been very active in the past. They hope to expand to a larger committee to facilitate communications between EMU states and the USFWS. A meeting is scheduled for May 16-17 and all EMU states will be invited to attend. The pressing issues will be (1) how and who to include, (2) identify priority management and research needs, and (3) how the expanded group will communicate with the USFWS. The latter issue could be accomplished by (1) no change; comments could be made by public comment, (2) Flyway Consultants, or (3) designation of a separate Consultant to represent EMU dove issues at SRC meetings. Until everyone is comfortable with the workings of the expanded Technical Committee, the SEAFWA Directors would prefer the third alternative.

Duane Shroufe (AZ) commented that the issue goes back to the recent IAFWA reorganization of the Flyway Councils and where the authority comes concerning migratory wildlife regulations to the SRC. This process has evolved over time, but is still governed by the IAFWA Flyway Council System and its formal relationship with the SRC. It is perfectly acceptable to have separate meetings, such as the Southeast Dove Technical Committee, but when regulations are addressed, they need to go through the respective Flyway Councils to the SRC. People need to look at the legal establishment of, and relationship between, the Flyway Consultants and the Service. If the southeastern states cannot work through their Consultants, then another process would have to be established by the IAFWA. The recent Flyway System Review was done in an effort to solve problems that had developed in the regulation process, and provide for a clear organization and process for bringing regulation issues from the states to the Service.

John Frampton (SC) felt that the request by the Southeastern Directors is not a haphazard occurrence. The USFWS needs to think "outside of the box." The Eastern Management Unit is not aligned like the other 2 Management Units. It crosses flyway boundaries and there is a long history behind the Southeastern Dove Technical Committee as well. When the Flyway System Review was being made, the concern was expressed by the southeastern states that they did not agree with the system as it related to doves.

Ken Babcock (DU) said he worked on the flyway review. He was pleased to hear from Roy Grimes that alternatives are being considered that would accomplish what Duane was talking about. Strength will be gained by expanding the Southeastern Dove Technical Committee. Ken suggested that recommendations coming out of an EMU Dove Technical Committee through the Atlantic and Mississippi Flyway Councils would gain strength that would be difficult to ignore. The Flyway System Review Committee did not consider it an impediment to bring dove issues through the Councils, but rather felt it would give more strength to dove regulation issues rather than raising them at a public hearing. Opening the box so to speak by allowing the Southeast to have their own Consultant would likely make it possible for other groups to be part of the process who have asked to be such as antihunting organizations.

Vernon Bevill (TX) felt it was important for representatives of the Southeast to come to an SRC meeting so they can see firsthand how the process works.

John Schulz (MO) reminded Roy and others that the Central Management Unit Technical Committee was reorganized last year along flyway boundary lines. As a consequence, 4 Eastern Tier CMU states (Minnesota, Iowa, Missouri, and Arkansas) are no longer represented on dove issues by the Central Flyway. John stressed that even if a fully functional EMU Dove Technical Committee is developed, a solution must still be found to provide flyway representation for the 4 Eastern-CMU states.

Pat Ruble stressed that he felt it is critical for all states in the EMU to be represented.

MOURNING DOVE MANAGEMENT ACTIVITIES

David Dolton (USFWS) reported on a mourning dove workshop for states in the Eastern Management Unit held in Laurel, Maryland on October 19-20, 1999. **Attachment 4** is a summary of that workshop.

MOURNING DOVE MODELING EFFORT

John Schulz (MO) began by stating that people have been concerned about long-term declines in mourning doves for many years. Based on that concern, a workshop was held for Central Management Unit states in February prior to the workshop in the EMU [see Spring Meeting Minutes - 1999, p. 13]. People in both workshops felt there needed to be a concerted effort to do a better job of managing mourning dove populations, and to develop better estimates of survival and recruitment along with the population monitoring so that managers could make more informed harvest management decisions. The idea was to make the best use of available data prior to collecting a mass of new data. New statistical tools have become available in the last few years. Also, there is a considerable amount of wing-collection data from the 1970's that have not been throughly analyzed.

As this process evolved from both workshops, an effort was made to develop a proposal for a formal dove population modeling effort. David Otis from Clemson University became involved and will be lead the effort. Right now, it is hoped that everyone will get behind this effort. This is the first of many steps of utilizing all the information that is available and highlighting information that is needed to better manage doves.

David Otis (SC Cooperative Fish and Wildlife Research Unit) stressed that the overall goal was to put mourning dove management on a much more solid foundation. In order to do that, models will be developed for populations in each management unit. These models will be simplistic in structure. The difficult part will be to develop reliable parameter estimates for these models which are meaningful since much of the data is old. However, it will be a useful exercise to synthesize and reanalyze some of it with current statistical methodology. David will look at survival and the relationships between survival rates and harvest rates, reproduction, etc. to put into the model to see what it can tell us about the sensitivity of those models to those parameters and different assumptions about the covariates that are important to survival and reproduction. In the short term, he wants to gain a better insight into dove population dynamics and develop a framework to prioritize informational needs.

John distributed a proposed recommendation for conceptual support of the mourning dove modeling study (**Attachment 5**). He moved *that this recommendation be approved.* The motion passed unanimously. [Subsequently, a motion to support this recommendation was passed by the Migratory Wildlife Committee.]

John also submitted a recommendation for new population monitoring surveys for mourning doves (**Attachment 6**). This was an outgrowth of the of activities stemming from the Mourning Dove Subcommittee of the Central Flyway Webless Game Bird Technical Committee.

Jim Woehr (WMI) asked about the cost and expressed concern about how to sell a program with such a large effort being involved to make it operational. Vernon

Bevill (TX) said he was concerned about the cost of *not* doing the work, but added that his staff is over committed now. Jeff Ver Steeg (IL) said that the upper region of the Mississippi Flyway supported both recommendations presented. David Otis commented that the modeling project should be able to provide guidance on sample sizes and designs for collecting population information, and this in turn could be used to develop cost estimates.

Ken Babcock (DU) stated that he understood that there has been a 27% increase in the USFWS budget, but that only 5% went to migratory bird programs. There is a need to get funding redirected.

John *moved to accept the recommendation.* The motion passed unanimously. [Subsequently, a motion to support this recommendation was passed by the Migratory Wildlife Committee.]

EARLY-SUCCESSIONAL HABITAT IN EASTERN FORESTS

Dan Dessecker (RGS) reviewed the recommendations of the Woodcock Task Force report and how these recommendations could be moved forward. He referenced his understanding from a conversation with Jim Kelley (USFWS), that Jim was currently spending considerable time on the snow goose management issue, but that Jim expected that this work would be completed in late summer, thereby freeing up most of his time for other duties, including working on woodcock issues. This would help address the Task Force recommendation that the USFWS identify 1 individual whose primary responsibility was the conservation of American woodcock and other early-successional wildlife.

Regarding the Task Force recommendations to curb the loss of early-successional habitats, Dan reported that the USFS is currently in the process of revising numerous Forest Plans throughout the breeding range and wintering range of the woodcock. Initial plan alternatives appear likely to exacerbate the ongoing declines of habitats required by woodcock and other early-successional wildlife. Dan asked whether it would be appropriate for the Working Group to consider contacting the USFS to ensure that the habitat needs of these wildlife species are given adequate consideration by the agency.

Jim Woehr (WMI) felt that state participation in the process was the best way to get information to the U.S. Forest Service. Dan felt that IAFWA support will give weight to the issue. Cindy Ragland (USFS) recommended both approaches. Gary Myers (TN) expressed concern that a good plan has been developed for waterfowl and shorebirds, but not for shore and upland game birds. Jim said there are no habitat goals available for woodcock. Gary added there are no goals for doves either. If information is available, landscape management could be undertaken for both these species. The best action in the short term would be to write letters. John Schulz (MO) felt that habitat concerns for doves is not an issue because doves use such a variety of habitats. Jim said the Partners in Flight (PIF) plan mentions woodcock. John though that common birds, such as mourning doves, were not addressed in PIF plans.

After this brief discussion, Ron George proposed that a letter be forwarded over his signature to appropriate personnel in the USFS, USFWS, and appropriate state resource management agencies. He asked Dan to help prepare a draft. This letter will highlight the findings of the Woodcock Task Force and urge these agencies to proactively address the continuing loss of early-successional forest habitats.

Another person said that the USFS has strong habitat diversity plans. Scot Williamson (WMI) extended an invitation for participation in a meeting today to discuss whether the woodcock situation needs to be investigated further in the Mid-West.

PREDICTING HABITAT SUITABILITY FOR AMERICAN WOODCOCK

Ann Steketee recently completed her doctoral work at West Virginia University (WVU). She developed a landscape-level habitat model and used the model to identify and quantify woodcock habitat currently available in WV. She worked with David Klute who completed his doctorate at Pennsylvania State University (PSU) in 1999 and conducted a similar study in PA. These projects were conducted jointly and were partially funded through the Webless Migratory Game Bird Research Program. Other funding came from the WV Division of Natural Resources, PA Game Commission, and the Cooperative Fish and Wildlife Research Units at

WVU and PSU. Ann summarized a 1999 report prepared by David Klute, herself and Petra Bohall Wood entitled "*Using Logistic Regression and Remotely Sensed Data to Predict Potential Habitat Suitability for American Woodcock Over Large Geographic Areas in Pennsylvania and West Virginia.*"

"The American woodcock is a popular game bird and its unique and conspicuous courtship display make it popular with bird watchers as well. However, since population monitoring was begun in 1968, results from the U. S. Fish and Wildlife Service's North American Singing-ground Survey have indicated that American woodcock populations have declined in the eastern and central United States.

Habitat loss in the breeding zone is thought to be an important factor contributing to woodcock population declines. Typical American woodcock habitat is wet woodlands consisting of young trees and scattered openings. Habitat loss has occurred both directly through urbanization and industrialization, and indirectly, as natural forest succession creates mature forest stands unsuitable for woodcock.

To fulfill research and management plans at the regional and national level, inventories of existing and potential woodcock habitat are needed. Such inventories would facilitate a better understanding of how habitat availability and distribution affects woodcock abundance and would provide information on where and how to best manage woodcock habitats and such predictive models could be used by land managers to develop strategies for woodcock conservation and management.

The objective of our project was to develop models to predict potential habitat suitability for American woodcock over large geographic areas in West Virginia and Pennsylvania using remotely sensed data. The development and application of predictive habitat suitability models would aid in the identification of areas that are currently providing important woodcock habitat or which could be enhanced to provide improved woodcock habitat in the future.

Searches for woodcock with trained pointing dogs were used to define areas of woodcock use in the High Allegheny Eco-Region of east central West Virginia. This region contains the highest elevations in the state and the greatest amount of federal and state land including a large portion of the Monongahela National Forest. The mountains are generally oriented in a northeast-southwest direction with deep valleys between. Eighty-nine percent of the study area was covered by forested land roughly divided into northern evergreen and northern hardwood cover types.

Woodcock use points were defined by woodcock flushes during searches with trained pointing dogs. The exact location the bird had occupied when discovered by a pointing dog was obtained with a global positioning system (GPS) and all flush points were entered into the Arc/Info geographic information system.

One hundred thirty-four woodcock use points were identified during May-August 1995-97. A corresponding number of random sites were created by randomly generating points within a GIS and eliminating those that fell outside the study area boundary. Because we compared used and available points (rather than used and unused), random sites were allowed to occur anywhere within the study area even in areas of known woodcock habitat.

Singing-ground surveys were used to detect presence of singing male woodcock in the Ridge and Valley Province of Pennsylvania. The Ridge and Valley Province is a distinctive belt of wooded ridges and broad agricultural valleys extending thru central Pennsylvania and east toward northern New Jersey. Ridges and slopes are dominated by mixed oak forests. Valleys are dominated by agricultural lands and urban development. Agricultural areas and mixed forests were much more prevalent in Pennsylvania.

Singing-ground survey routes were randomly selected from an existing road database using Arc/Info software. In 1996, 67 routes were surveyed. Sixty-one of these routes were surveyed twice and 6 were surveyed once. In 1997, 29 different routes were surveyed. All 29 of these routes were surveyed only once. Starting points of routes were located at easily identifiable points like road intersections. Ten survey stops were located along each route at 0.64 km intervals.

All singing-ground surveys were conducted by experienced observers. Surveys were conducted between the 15th of April and the 5th of May following U.S. Fish and Wildlife Service protocol. If one or more woodcock were detected, the stop was classified 'present'; otherwise, the stop was classified 'absent'. Surveys were completed in approximately 35 minutes.

Pointing dogs searching for woodcock in the Canaan Valley at Blackwater Falls State Park, WV. *Photo by Ann Steketee*

A 450-m circular buffer was established around each flush and random point in the West Virginia data set and each singing-ground survey point in the Pennsylvania data set. A concurrent study determined that models based on habitat variables within a 450 m buffer correctly classified a greater number of points than did models based on habitat variables within any other buffer distance measured. The MRLC database and the FRAGSTATS spatial analysis program were used to quantify habitat variables associated with each point.

Our methods were somewhat involved, so I'd like to give a quick overview of them first, then discuss them in more detail. In West Virginia, we had 134 flush points and 134 random points, in Pennsylvania there were 96 SGS routes with 10 stops each. In order to reduce the number of variables in each set we did a univariate analysis on each variable and kept only those with likelihood ratio tests less than 0.25. Remaining variables were subjected to correlation analysis and we eliminated one from each pair with r greater than 0.5. Remaining variables were used for logistic regression analysis. Once we had acceptable regression model, we reclassified the original points to determine how well the models worked.

The MRLC is a land-cover database for the entire mid-Atlantic region derived from Satellite imagery. It has 30- x 30-m pixel resolution, and so cannot distinguish long, narrow tracts including utility rights-of-way, roads, lower order rivers and streams, and all features smaller than 30 x 30 m.

The portion of the MRLC pertaining to the state of West Virginia was modified by incorporating National Wetland Inventory data and by reclassifying row crops that occurred on slopes >20 degrees. Because of less extreme topography, the portion of the MRCL database occurring in Pennsylvania was not modified to adjust for steep slopes or to incorporate additional NWI data.

For model development we used 4 landscape-level metrics (mean patch size, Simpson's diversity index, number of patches, and patch richness) and 14 class-level metrics (proportion of each of 12 land-cover variables, and mean patch size for deciduous forest and woody wetland patches) and 1 additional variable, the distance to the nearest wooded wetland for each point. Additional class variables were included for deciduous forest because it was the dominant land-cover type throughout the study areas and woody wetlands because of their importance to woodcock.

To determine habitat associations between the presence of woodcock and the measured habitat variables, logistic regression models were constructed following the protocol and terminology of Hosmer and Lemeshow. A univariate logistic regression model was fit and likelihood ratio tests (G tests) were examined for each variable. Variables with $P < 0.25$ for G tests were retained for further analysis and were subjected to correlation analysis to detect co-linearity. Pairs of variables with $r > 0.50$ were considered for elimination. The decision of which variable to eliminate from each correlated pair was based on significance (P values) of the univariate G tests; the variable with the lower P value was retained. After correlation analysis, a multivariate logistic regression model was fit using the remaining variables. For the West Virginia data set, classes for logistic regression were defined by woodcock use and available habitat (flush and random points); for the Pennsylvania data set, classes were defined by woodcock presence and absence (stops where woodcock presence ≥ 1 and stops where woodcock presence = 0).

Standard reclassification statistics were used to evaluate modeling efficiency. For the West Virginia data, the cut-off probability for reclassification was 0.50. Points with $P > 0.5$ were considered use points and points with $P < 0.5$ were considered random or non-use sites.

The cut-off probability for reclassification for the Pennsylvania data was calculated by determining the proportion of the total stops with woodcock present. Points below this percentage were defined as absent-stops (i.e., 0 woodcock observed) and above as present-stops (i.e., > 0 woodcock observed).

After a suitable logistic regression model had been constructed for each data set, the models were used to predict the probability of occurrence of woodcock throughout the study area in which it was developed. A grid consisting of 450- x 450-m square cells was created for each study area and habitat variables were determined from the MRLC database for each grid cell. Parameter estimates from each developed logistic regression model were used to calculate predicted probability of woodcock presence for each grid cell.

Finally, after suitable logistic regression models had been constructed for each study area, the developed regression models were switched and used to determine the predicted probability of woodcock occurrence throughout the other state's study area. The efficiency of the inter-state models was tested using the same reclassification statistics as for the original model developed for each state.

Univariate analyses of the West Virginia data eliminated 3 class-level variables (proportion of row crops, proportion of water, and proportion of transitional land) from inclusion in preliminary models. Correlation analysis eliminated 2 of the remaining 11 variables mean patch size of deciduous forest and Simpson's Diversity Index).

In Pennsylvania, univariate analyses eliminated 7 class-level (proportion of developed land, coniferous forest, wooded wetlands, emergent wetlands, mean patch size of deciduous forest patches, mean patch size of wooded wetland patches, and distance to nearest wooded wetland) and 2 landscape-level variables (mean patch size and Simpson diversity index) from inclusion in the preliminary model. Correlation analyses eliminated 3 of the remaining 8 variables.

In West Virginia, logistic regression model development using the remaining variables identified 6 variables that were important to woodcock presence. Five class-level habitat variables (proportion of developed land, proportion of coniferous forest, proportion of mixed forest and proportion of hay/pasture/grass and distance to nearest woody wetland) were inversely associated with woodcock presence. Woodcock presence was associated with patch richness.

In Pennsylvania, multivariate logistic regression identified 5 class-level habitat variables that were important predictors of woodcock habitat use. Like the West Virginia data, the proportions of hay/pasture/grass and mixed forest were negatively associated with presence of woodcock at singing-ground survey stops.

The proportions of water, row crops, and barren: transitional habitats were positively associated with presence of woodcock at singing-ground survey stops.
Class level variables were important in predicting woodcock presence in West Virginia but the single best predictor described the spatial distribution of a habitat element: distance to woody wetland. Flush points were significantly closer to woody wetlands than were random points at all elevations and 26 % of flush points (2.9 % of random points) occurred directly in woody wetlands though this habitat comprised less than 1 % of the total land area in the study area. Distance to woody wetlands was a significant variable in all models developed in the study area at all spatial scales and elevations. It was a better predictor of woodcock presence than was the proportion of woody wetlands. A univariate model developed with this variable alone correctly classified 64 % of all points in the High Allegheny study area. Woodcock are known to make heavy use of wooded wetland areas, particularly those containing alder, probably because they contain the moist, rich soils that harbor high earthworm densities. Woody wetlands are the best indicator of woodcock occurrence in West Virginia at the spatial scale measured.

In Pennsylvania, only class-level habitat variables were included as important predictors of singing-ground use by woodcock. No explanatory variables were included that described the spatial arrangement or distribution of habitat elements. Fine-scale studies have shown singing grounds are typically composed of short, shrubby vegetation with small openings suitable for courtship displays. Although they were rare in the MRLC data set, barren: transitional habitats, which likely described areas with early successional or shrubby vegetation, were identified as an important predictor of male woodcock presence on singing-grounds. The positive relationship between row crops and woodcock presence at singing-ground survey stops may be related to the use of agricultural openings as singing-ground sites or the use of agricultural fields in close proximity to singing-grounds as nocturnal roosting habitats.

The proportional cover of water was also identified as an important predictor of woodcock presence on singing grounds in the Ridge and Valley Province of Pennsylvania. Although they are classed as shorebirds, woodcock do not wade and the importance of water coverage is likely related to areas with increased soil moisture and high earthworm abundance. Steketee's dissertation detected a similar relationship between woodcock use and coverage of water in West Virginia.

The Pennsylvania and West Virginia models shared 2 significant variables. In both study areas proportion of hay/pasture/grass and proportion of mixed forest were inversely associated with woodcock presence. Minimal habitat requirements of woodcock can be met by a wide range of vegetative structure and composition. There must be, however, land-cover types and configurations that woodcock cannot tolerate, and these intolerable characteristics may be more narrowly defined than are characteristics of habitat that woodcock do tolerate. Several studies have associated woodcock declines (as measured by SGS) with increases in urban/industrial areas and mature forests suggesting a negative association between these land-cover types and woodcock presence over relatively large geographical regions. Results of our study indicate that proportion of hay/pasture/grass and mixed forest, measured at a coarse spatial scale, also may be good indicators of areas with low woodcock habitat suitability.

Models based on hay/pasture/grass and mixed forest alone predicted reasonably well in Pennsylvania where 56% of absent stops and 69% of present stops were correctly classified. In West Virginia's only 49% of random points and 60% of flush points were correctly classified by a regression model using only proportion of hay/pasture/grass and mixed forest.

The landscape in Pennsylvania's Ridge and Valley Province is dominated primarily by mixed forest and agland, the dark green and yellow on this slide. Furthermore, singing-ground survey stops with higher proportional cover of mixed forest and hay/pasture/grass had an increased likelihood of being absent stops. Stops with lower proportions of mixed forest and hay/pasture/grass, interspersed with other important habitat features had an increased likelihood of being present stops. Because of their detected relationships with the distribution of woodcock singing grounds, coupled with their relative dominance in the landscape, mixed forest and hay/pasture/grass performed reasonably well as predictors of woodcock distributions in Pennsylvania's Ridge and Valley Province.

In West Virginia, in contrast, only about 12% of the study area was covered by mixed forest and less than 2% of the study area was covered by hay/pasture/grass areas. Areas with these land-cover types had increased likelihood of being unsuitable for woodcock, however, these land-cover types were sufficiently rare that they were only fair predictors of woodcock distribution in West Virginia's High Allegheny study area.

The West Virginia model correctly reclassified 76 % of points. The model was better at reclassifying flush points (80 % correctly predicted) than random points (72% correctly predicted).

Probability of woodcock occurrence throughout the study area extrapolated from the model ranged from < 0.01 to 0.94. With 85 % of study area classed as highly unsuitable ($P < 0.2$) and 1.5 % of the study area classed as highly suitable ($P > 0.8$).

The Pennsylvania model correctly classified 59 % of all stops. The model was better at classifying present stops (69% correctly classified) than absent stops (57 %).

Probability of woodcock occurrence throughout the study area extrapolated from the model ranged from < 0.01 to 0.97. With 93 % of study area classed as highly unsuitable ($P < 0.2$) and 0.5 % of the study area classed as highly suitable ($P > 0.8$).

Although the models performed well in the area in which they were developed, the performed poorly when switched and applied in the neighboring state. The model developed for West Virginia's High Allegheny Mountain study area greatly overestimated the probability of woodcock occurrence; it correctly predicted woodcock occurrence at 99.0% of present stops, but correctly classified less than 1% of absent stops.

Conversely the model developed for Pennsylvania's Ridge and Valley greatly underestimated the probability of woodcock occurrence in West Virginia: it correctly predicted woodcock absence at 100% of random sites but predicted woodcock occurrence at only a single (0.07%) flush site.

Our results indicated that probability of woodcock occurrence in West Virginia's High Allegheny Mountain study area and Pennsylvania's Ridge and Valley Province could be predicted reasonably well using widely available digital data. The West Virginia models correctly predicted about 75% of woodcock flush points indicating that 3 of 4 times models should correctly identify areas that contain woodcock. Similarly, in Pennsylvania present-stops of singing ground survey routes were correctly classified 69 % of the time by the developed model. Although our models did not perform flawlessly, we expect that they correctly predicted the relative ordinal relationships between low- and high-suitability woodcock habitat. Klute in his dissertation, showed that, in Pennsylvania, a developed logistic regression model correctly predicted the trend in habitat suitability even though binary classification statistics were low. In other words, areas with low habitat suitability consistently had low predicted probabilities and areas with high habitat suitability had high-predicted probabilities. Areas with marginal habitat suitability had moderate predicted probabilities and were the most frequent causes of classification errors.

Woodcock habitat adjacent to Spruce Knob Lake in the Monongahela National Forest, Randolph County, WV. *Photo by Pam Denmon.*

Several factors may have contributed to classification errors in both West Virginia and Pennsylvania. First, all relevant habitat variables may not have been included in the developed models. All modeling approaches assume the variables being measured are actually ones to which the species of interest responds. However, in reality our variables may have been approximations of the true habitat variables to which woodcock respond. Our study was limited by the 30- x 30-m resolution and classification system of the MRLC data. For some habitat variables, it is likely that the MRLC data were too coarse. For example, we were not able to determine forest age or accurately differentiate shrubby species from tree species. These variables may have improved the performance of our models as woodcock's preference for shrubby areas and young forest stands has been well documented.

Additional sources of modeling error may have resulted from the accuracy of woodcock presence/absence information gathered about the point. In West Virginia, random points were not visited but were assumed to be representative of available habitat rather than to be non-use areas. It is possible that some random points which were misclassified as flush points would have had woodcock present had they been searched. In Pennsylvania, each survey route was visited only 1-2 times, and thus woodcock may not have been detected at some stops when they were actually present, potentially resulting in incorrect classification of some stops. In both West Virginia and Pennsylvania, woodcock may not have been detected at some locations within suitable habitat because it is likely that not all suitable sites were inhabited by woodcock in any given year. Conversely, because location of woodcock with pointing dogs and singing-ground surveys only provided a 'snapshot view' of habitat use, some birds may have been encountered in sub-optimal habitat or habitat where they normally spend very little time. Our methods of detection provided no means of determining the true suitability of habitats being used by woodcock. Sepik et al. (1989) cautioned that without considering habitat quality, researchers may be measuring woodcock use of the best available habitat rather than the best habitat. If this is true, modeling efforts that rely on variables from best available sites may be modeling sub-optimal habitat. Increased sampling effort, perfect detection, and complete use of suitable habitats would be needed to eliminate these sources of error.

Extrapolation of our models across the study areas in their own state provided information regarding the relative distribution of potentially suitable woodcock habitat. Although extrapolation cannot distinguish specific points of woodcock occurrence, the models do indicate areas where habitat variables are consistent with areas in which woodcock do occur and where woodcock may have a high probability of occurrence.

Pennsylvania probably contains proportionally more woodcock habitat than does West Virginia but woodcock habitat is limited in both states. Studies conducted in the 1970's indicated that approximately 3% of the land area within Pennsylvania was woodcock habitat while less than 1% of the land area within West Virginia could be classified as woodcock habitat. Subsequent studies have indicated that woodcock habitat is declining in Pennsylvania and West Virginia and throughout the woodcock's range. Concern for the continued loss of woodcock habitat is justified.

In both states, areas identified through model extrapolation as areas of high probability of woodcock suitability and areas of state and federally owned lands that could be managed for woodcock do not coincide. Areas with the highest probability of woodcock occurrence in Pennsylvania's Ridge and Valley Province occurred along the valley floors while the majority of public land is located along ridge tops. A similar situation occurs in West Virginia's Canaan Valley, which contains the state's best woodcock habitat but is largely privately or industrially owned and therefore unprotected from development for human use. Canaan valley is one of three migration staging areas specifically recommended for protection in the woodcock management plan. Habitat areas within the Monongahela National Forest, while protected from development may become lost to woodcock through forest stand succession or maturation. There are currently few areas of either state actively managed for woodcock and continued declines in woodcock populations can be expected as habitat loss continues.

Our results suggest that widely available broad-scale data derived from satellite imagery can be used to identify areas of varying woodcock suitability across large geographic areas. In particular, our models were most readily able to identify the extremes of habitat suitability (i.e. areas of relatively high suitability and relatively low suitability) using broad-scale data. Models such as these could be created for contiguous areas across the woodcock's breeding range and used to estimate availability of potentially suitable habitat and areas particularly unsuitable for woodcock. Areas of potentially suitability could be examined more closely to determine their true suitability and/or importance. The size and locations of areas determined to be particularly unsuitable also may be important for managers considering the region-wide population.

This information has a variety of potential uses including regional assessment of habitat and predicting the effects of future land use and land- cover trends. Furthermore, models based on satellite imagery can be updated quickly and easily as new images or land use changes make updating desirable.

Based on our results we make the following recommendations:

1. Areas identified as highly suitable should be more closely explored at finer spatial scales to determine their actual habitat suitability. Areas containing highly suitable habitat should be targeted for conservation. Priority should be placed on highly suitable, publicly owned land.
2. Areas of marginally suitable habitat should be more closely examined to determine the potential for habitat enhancement to benefit American woodcock.
3. Habitat suitability models for woodcock based on broad-scale data should be constructed for other regions to determine the range-wide abundance of potentially suitable habitat. Modeling efforts should occur on study areas that are contained in a single physiographic region.

As landscape change occurs, habitat suitability models for woodcock should be reapplied in Pennsylvania and West Virginia to monitor changes in the abundance and/or location of potentially suitable woodcock habitat."

Jim Kelley (USFWS) asked how far back there were data or other means, such as aerial photos, to determine how much habitat there was available in the 1970's, for example, to compare with current habitat. Ann responded that, theoretically, the parameters in the model should apply, regardless of the time. In WV, a 1950's and a 1976 landcover database exist. Ann did not know what kind of historical landcover data were available in PA. Photos could be digitized from any time period.

Bob Boyd (PA) asked if the WV model, based on the Allegheny Plateau, would work in the same region in PA. Ann responded that she didn't know the specifics of the Allegheny Plateau in PA. The WV model should perform better in PA's Allegheny Plateau than it did in the Ridge and Valley. The model she developed as part of her dissertation work has a variety of additional variables, such as degree of slope. Slope was very important in WV since woodcock habitat was found almost exclusively on gentle slopes and flat areas which are somewhat rare in WV and, presumably, in the Allegheny Plateau of PA.

A question was asked about plant species in wetland areas. Ann said that alders were the primary species found.

LEAD EXPOSURE IN MOURNING DOVES

J. Christian Franson (USGS–BRD National Wildlife Health Center) provided the following summary of his progress report. "Increasing concern has been expressed in recent years about the significance of lead shot ingestion in birds other than waterfowl. Lead exposure from the ingestion of spent lead shot has been identified in several species of North American upland game birds, including the mourning dove (*Zenaida macroura*), for example. Mourning doves are heavily hunted in selectively managed fields, where as many as five to eight shotshells are expended per bird taken, resulting in lead shot densities of greater than 860,000 pellets per hectare in some areas. The participants of a recent workshop concluded that, of the upland game birds, mourning doves are particularly likely to ingest lead shot. Although the relationship between lead shot ingestion and toxicological effects is dependent upon several factors, including species, diet, body condition, and environmental characteristics, experimental studies have shown that the ingestion of as few as one No. 8 lead shot can be lethal to mourning doves. Even if lead shot ingestion does not result in direct mortality from lead poisoning, lead exposure may cause sublethal physiological or behavioral effects that could lead to starvation, the inability to escape from predators, or perhaps increased susceptibility to disease. Because of the potential for lead shot ingestion by mourning doves and the limited availability of published information on this topic, research on lead exposure and poisoning in mourning doves has been identified as a need for proper population management.

In the autumn of 1998, the National Wildlife Health Center (NWHC) initiated a study of lead exposure in hunter-killed mourning doves. The objective of this study is to evaluate the prevalence of lead exposure in mourning doves, based on the frequency of ingested lead shot and lead concentrations in liver and bone, in a sample of hunter-killed birds from the three primary management units in the United States. The prevalence of ingested lead shot in gizzards will provide an index to the frequency with which mourning doves are picking up lead shot, and lead residues in liver and bone will reflect recent and chronic lead exposure, respectively. Our project was designed as a pilot study of lead exposure in mourning doves of national scope, based on a large sample size and using consistent sampling and analytical techniques.

In 1998 and 1999, carcasses (minus breast) of hunter-killed doves were collected in the field by NWHC staff and individuals from cooperating agencies in Arizona, Georgia, Missouri, Oklahoma, Pennsylvania, South Carolina, and Tennessee. Carcasses were frozen and shipped to the NWHC in Madison, Wisconsin, where they were aged by plumage characteristics and sexed by visual examination of gonads. The gizzard of each bird was excised intact and examined for the presence of shot by radiography. Gizzards were individually identified and x-rayed in groups. When metallic densities characteristic of shot were noted on x-rays, gizzards were examined visually to differentiate between shot that were ingested and those that penetrated the gizzard wall as a result of shooting. Livers and bones from all doves with ingested lead shot, as well as subsamples of adults and juveniles without ingested shot, are being analyzed for lead content by atomic absorption spectroscopy. To date, we have examined 4,414 dove gizzards from seven states. Our combined findings (1998 and 1999; all locations) for ingested lead shot are listed in Table 1.

Table 1. Preliminary results of the examination of gizzards from 4,414 mourning doves for ingested lead shot.

State	# Carcasses	% With ingested lead shot
AZ	621	5.48
GA	294	0
MO	574	0.35
OK	1,093	0.46
PA	323	0.93
SC	1,205	2.82
TN	304	0.33
Total	4,414	1.79%

Work on the project that remains to be completed includes the state-by-state evaluation of lead shot ingestion rates at the various sampling locations and the analysis of lead concentrations in samples of liver and bone. Tissue residues will be compared with available literature to evaluate their relationship to "normal" background levels and their toxicological significance. Potential differences related to age and sex will be examined statistically. Final results will be published in peer-reviewed scientific literature.

Funding support for this project was provided by the 1998 Webless Migratory Game Bird Research Program (U.S. Fish and Wildlife Service), Arizona Game and Fish Department, Georgia Department of Natural Resources, Missouri Department of Conservation, Oklahoma Department of Wildlife Conservation, Pennsylvania Game Commission, South Carolina Department of Natural Resources, and the Tennessee Wildlife Resources Agency. Additional assistance was provided by the South Carolina Cooperative Fish and Wildlife Research Unit."

A question was asked if attempts were made to identify the reasons for site variability in lead ingestion rates. For example, why did some areas in Arizona have such high ingestion rates? Specifically, were soil characteristics, including lead shot in soil, studied? Chris said he has some useful information regarding hunting pressure from many of the sites, but he does not have any soil lead data. There were no resources available to do soil sampling in this study.

Another question was asked if traditional dove hunting fields were used. Chris responded that they did use traditional areas that had check stations for the most part. Most of the data came from state-owned land, but some came from privately-owned land. Generally, samples were collected early in the season so adequate numbers of doves could be collected.

Larry Marcum (TN) asked if any information was gathered on how many birds ingested other kinds of shot. Chris said that several birds were found to have eaten steel shot.

Sam Lawry (AZ) commented that it wasn't surprising to see the results from the fields in the Gila Valley. Those fields, where the birds were collected, are isolated farm belts and feed lots where hunters concentrate. There is heavy hunting pressure in those fields during the season. He added that it will be a challenge to address the issue of hunter concentrations and the potential for non-toxic shot zones for doves, but it may need to be considered.

Pat Ruble (OH) asked Chris if he was going to look at lead levels in breast meat. He asked that because one of the issues in Ohio is that doves may not be safe to eat because of lead ingestion. Chris responded that he didn't plan to study lead levels in tissue, and that he was not aware of any problem of high lead concentrations in muscle tissue resulting from lead shot ingestion (versus fragments of shot in muscle tissue). There was a study conducted in South Carolina several years ago where the lead level was measured in the muscle; he didn't know the specifics. Bob Byrne (WMI) said he thought the study had been a risk analysis whereby they determined that eating 4 birds/day for 180 days would cause a problem. Since nobody is likely to eat this many doves, it would not pose a problem. In Canada, elevated lead levels have been found in Natives who are eating primarily game. However, they are not sure where the lead is coming from.

John Schulz (MO) said they are collecting soil samples in conjunction with Chris's study. They did find some pellets in heavily-hunted fields. However, what really struck them was that the protocol for soil sampling reported in the literature is quite variable regarding the depth sampled. John was concerned about picking up lead pellets that are deep in the soil and unavailable to doves and also not getting deep enough to accurately count pellets that are available to the birds. There is also the issue of different soil types and how the pellets go through the soil profile. Their pilot study shows the existing tool to take soil measurements is extremely variable. John said they also collected doves in areas where only steel shot was used. Chris Franson's technicians are still in the process of analyzing these birds for ingested shot.

John Frampton (SC) asked about the mortality of doves with ingested shot. Chris said doves are fairly resistant compared with some other species, at least regarding the lead levels associated with mortality that are reported in the literature.

MIGRATORY BIRD ISSUES

Jon Andrew (USFWS) stated that MBMO has received $120,000 to hire and fund the operating expenses of a person to coordinate implementation of the U.S. Shorebird Conservation Plan and to facilitate research and management of shorebirds generally within the USFWS and with various partners. He expects that person to communicate results and progress made with this Working Group and make reports annually.

Jon felt the Working Group and the Webless Migratory Game Bird Research Program really have their act together more than most programs in identifying and ranking projects, defining costs, and having specified products that will be forthcoming. This makes it easy for a budget initiative. MBMO is looking at the best way to feed suggestions for projects from the various Working Groups into a newly designed project database for the 2002 budget. And, they will look for ways to increase the contribution for the WMGBR Program.

Ron George commended the USFWS on its actions to date in designating a woodcock specialist and getting the new shorebird coordinator position approved.

U.S. SHOREBIRD CONSERVATION PLAN

Stephen Brown (Coordinator, USSCP) reported that final drafts of the U.S. Shorebird Conservation Plan (USSCP) and all of the accompanying technical reports are completed and available for review on the Plan website at: http://www.Manomet.org/USSCP/files.htm

The Shorebird Plan national meeting was held at the Bodega Marine Lab in Bodega Bay California on October 6-10, 1999. At the meeting 115 people worked on the development of the Plan and its associated technical and regional reports. Ten of the 11 NAWMP habitat Joint Ventures were represented, and participated actively in discussions about development and implementation of the Shorebird Plan in conjunction with the Joint Ventures.

Following the national meeting, a no-cost extension was requested to allow additional time for public review of drafts of the plan, with a final completion date set for April 15, 2000. The USSCP will be completed by that date, and plans for printing the final document are well advanced. Regional Plans were drafted for 10 Shorebird Planning Regions nationwide. The regional and technical reports will be edited and posted in their final version on the web site by April 15th. Stephen requested that Migratory Shore and Upland Game Bird Working Group members review the documents, and discuss their acceptance at the next meeting in Indianapolis. He thanked the members of the committee for their support during the development of the plan, and in particular the advice and support provided by Ron George as Working Group Chair.

In terms of implementation funding, Stephen reported that the Atlantic Coast Joint Venture (ACJV) was the first to move forward with putting someone on the ground to do the implementation work. Stephen was pleased to announce that they just received word from the National Fish and Wildlife Foundation that their Challenge Grant with them was funded. This new job resulted from a joint workshop they held with the ACJV, Partners in Flight Regional Working Group in the Northeast, and the Northeast Shorebird Working Group. The purpose of the workshop was to figure out how to work together to plan habitat conservation on the ground to directly benefit all these different groups of birds. The 2 basic ideas are to do a series of step-down management workshops, similar to what was done in the Lower Mississippi Valley and to try to develop a flagship North American Wetlands Conservation Act (NAWCA) proposal that could directly benefit those groups of birds and serve as a catalyst for integrated bird conservation in the region. That person will be coming on sometime this summer.

At Manomet, Stephen was hopeful that they are close to getting support to continue their work with the Joint Ventures. Also, they have been very active in lobbying for CARA (Conservation and Reinvestment Act of 1999). Also, they received a NAWCA Evaluation Grant to focus on evaluating the nongame bird use of NAWCA sites that have been established in the northern part of the Atlantic Coast. The reason for doing that is because there is a great deal of discussion about the ancillary benefits of NAWCA projects for this wide range of species, but there is no data to point to. It will be beneficial to document the kinds of habitat being provided for species other than waterfowl so they can make a strong case and go forward as part of NABCI to argue that the appropriation for NAWCA should be doubled. Additionally, this will enable them to pull an enormous new constituency to add support for the NAWCA program. Finally, they are working very closely with the NABCI process to ensure that all these initiatives can work together.

Ron commended Stephen and others who have worked with Stephen for their professional quality work over the past 2 years. He asked members to review the documents via website and consider formal approval at the fall meeting.

NORTH AMERICAN BIRD CONSERVATION INITIATIVE

Scott Yaich (AR) distributed the latest draft of 2 documents. They can be viewed on at:
http://www.Manomet.org/USSCP/files.htm
They are entitled *The North American Bird Conservation Initiative in the United States: A Vision of American Bird Conservation* and *The North American Bird Conservation Initiative in the United States: Actions Required for More Effective Bird Conservation*. These latest drafts are dated March 20, 2000.

Earlier drafts were widely distributed throughout the country, and a second draft completed for a NABCI Committee meeting in February. This is the third version. There will be one last draft prepared. Scott expects the "Recommended Actions for More Effective Bird Conservation" to be short-lived and will be revised at least annually.

As a review, Scott said the NABCI Committee had an organizational meeting last November 1 based on the structure of the original committee that originated the effort. People involved in that meeting were Committee Co-chairs Jamie Clark (Director, USFWS) and David Waller (President, IAFWA); Jim Kushlan (USGS), representing the North American Colonial Waterbird Management Plan; Gary Myers (Tennessee Wildlife Resources Agency), representing Partners in Flight; Scott Yaich (Arkansas Game and Fish Commission), representing the North American Waterfowl Management Plan; Rollin Sparrowe (Wildlife Management Institute); Alan Wentz (Ducks Unlimited); and, George Vandel (South Dakota Game, Fish and Parks Department), representing the National Flyway Council. Stan Senner (National Audubon Society, representing the U.S. Shorebird Conservation Plan) was unable to attend.

Most of the discussion held in Killington centered upon the composition of the Committee. People wanted to feel they had representation and involvement. One of the first things undertaken by the Committee at the November 1 meeting was the creation of 2 subcommittees with appointment of their co-chairs as full voting members of the NABCI Committee. These subcommittees are the Non-governmental Organization Subcommittee (Chaired by George Fenwick, American Bird Conservancy), and the Federal Agency Subcommittee (Chaired by Val Mezainis, U.S. Forest Service). There has been an additional meeting of the full Committee, and several of each Subcommittee since November, and progress is being achieved at a rapid pace. David Pashley has been hired at the NABCI Coordinator for the U.S. effort.

OLD BUSINESS

National Conservation Needs

Ron George stated that Gary Krapu's sandhill crane satellite tracking project was forwarded as this group's National Conservation Need (NCN) last year. However, it didn't fare well. He has been asked to identify 1 project as a NCN for this year. Ron asked the group for suggestions.

Scott Yaich said he was not too familiar with the process, but did know they selected 4 proposals which were very general in nature and broad in scope of work.

Projects were suggested such as mourning dove population monitoring and woodcock work. Vernon Bevill suggested broad-scale population monitoring while John Schulz suggested funding the Webless Migratory Game Bird Research Program. There was some discussion regarding the process, type of project that would be best, and other related issues. In the end, it was decided to follow Vernon's suggestion.

Ross Melinchuk (DU) *moved to advance a proposal entitled "Establish or Improve Webless Migratory Game Bird Monitoring, Population, and Habitat Assessment Programs."* The motion passed unanimously. Ron asked Ross, Dan Dessecker, Dan McAuley, and John Schulz to prepare a proposal he could submit at the Migratory Wildlife Committee meeting. **Attachment 7** is the proposed need (with a slightly different title).

Eurasian Collared-doves

David Dolton (USFWS) called attention to a report on Eurasian collared-doves made by John Schulz at the March 1999 meeting [Spring Meeting Minutes – 1999, p. 16]. Recently, *Birder's World* magazine published an article about this species which is reprinted in **Attachment 8.** The impact of this bird on native species is unknown, but all need to be aware of the potential impact. Four nesting Eurasian collared-doves in Great Britain in 1955 grew to 200,000 by 1972. Today, there are an estimated 500,000. The author of the article states: "There is conflicting evidence that mourning doves have declined in some areas where Eurasian collared-doves have been present and increasing. Since the birds tend to avoid natural habitats and favor suburban areas, there has been limited competition with most native species. Whether the Eurasian collared-dove comes to be regarded as a pest or as a benign addition to our avifauna remains to be seen."

NEW BUSINESS

Creating an All-bird Process

Gary Myers (TN) stated that he wanted to institutionalize the program for an all-bird process. This has been discussed in other meetings. He suggested that the program associated with the North American Wetland Conservation Act (NAWCA) be expanded to include upland birds. However, there would be separate programs for wetland and upland species.

Gary stressed that they want to avoid a process whereby the different groups, such as waterfowl, shorebird, and songbird, are each going to their respective Councils trying to get funds for projects. The NABCI Committee is striving to have everyone seek funding together. Also, they want to protect funds specifically targeted for waterfowl now while creating a separate fund for other activities. John Frampton (SC) added that the NAWCA is for wetlands and a variety of species, not just for waterfowl. Gary responded that details will have to worked out if this idea moves forward. Right now, the thought is to have the group expanded that administers the NAWCA program to include people who are involved with all different kinds of habitat, rather than to create an entirely new group. If all birds are going to be considered in the Joint Ventures (JV), there should be a place to go to get all-bird habitat funds. John said the bird groups in the Atlantic Coast Joint Venture are comfortable with this type of arrangement. Gary stated that they didn't want to go that route unless they had support to do so.

Ron George stated he couldn't see any reason to turn down the possibility of obtaining additional upland dollars, if there is a chance of getting them. He agreed with John that, even though there are many situations that would take both wetland and upland funds, there are some that are truly upland alone, and it would be great if we could obtain funding for such projects.

As a point of clarification, Gary stated that the North American Wetland Council would have to determine scoring processes and procedures. Joint Ventures would go through the existing processes to obtain wetland money. They would go through processes yet to be developed to spend upland funds. Staffs would work out details so there would be no "jumping across the fence" to pull money from one program to another. Obviously, there is a gray area where some projects would qualify under both wetland and upland funds.

Sam Lawry (AZ) said the new Sonoran JV is an example of bringing projects together. It would not qualify under the NAWCA system. However, it would fit into an upland program. Also, he wanted to make the point that NABCI calls for wall-to-wall JVs. As it stands, the JVs are sanctioned by the North American Waterfowl Management Plan. The San Francisco Bay JV recently submitted their implementation plan for review by the Pacific Flyway Study Committee, and there was a great deal of discussion regarding the fact that this JV was focused primarily on shorebirds. It was thought that, perhaps, the shorebird folks should sanction the JV. Sam agreed with the concept, but asked about the sanctioning process as these new JVs become established. Gary responded that NABCI will not sanction any JV. They are partnerships and all they do is try to help them when needed.

Vernon Bevill (TX) commented that we can't forget that doves and woodcock are upland species along with quail, turkeys, grouse, etc., along with many nongame species. Also, because the current scoring criteria for NAWCA grants are such that one almost has to consider a number of species, there is a logic to securing money for projects from both upland and wetland funds. Obviously, there are cases whereby the projects are strictly upland, like the Sonoran JV, or are strictly wetland.

Ken Babcock (DU) hopes that in several years this discussion will be moot. As we are going through this transition, folks tend to be provincial in guarding dollars for their specific programs they have worked hard to achieve. Hopefully, the day will come when everyone will feel comfortable in working together through one act– the North American Bird Conservation Act– and there will be a billion dollars for bird conservation. The groundwork is already being laid. Also, Ken added that most JV management boards that Ducks Unlimited are involved with have embraced NABCI and are looking for ways to make it work on the ground. Each JV will take on its own complection.

Gary felt that we need to be proactive on the legislative end of things and do the best we can to get what we think is needed. If we continue to debate for another year, we will delay being able to initiate a comprehensive program.

Ron asked if anyone on the Working Group was uncomfortable with going after upland habitat dollars. There was no objection.

Sandhill Crane Brochure

Vernon Bevill (TX) announced a new brochure printed by the Texas Parks and Wildlife Department that highlights the sandhill crane study being conducted by Gary Krapu (Northern Prairie Wildlife Research Center). It is entitled *"friends of wildlife,"* and its purpose is to seek financial help to purchase the remaining transmitters needed to complete the project. For more information and to track individual cranes, contact Operation Crane Watch at: http://www.npwrc.gov/perm/cranemov.htm

North American Grouse Partnership

Ralph Rogers announced a new organization called the North American Grouse Partnership (NAGP). They are not competing with the Ruffed Grouse Society, but concentrating entirely on prairie grouse and grassland issues. To date, they have had 2 organizational meetings and, currently, are in the process of working on all aspects of infrastructure development. In the interim, information about the group and initial goals can be viewed at: http://www.suttoncenter.org (Click on Prairie-Chicken Studies).

APPROVAL OF MINUTES

The 1999 Spring and Fall Meeting Minutes were approved unanimously without any corrections or additions.

ADJOURNMENT

The meeting adjourned at 11:45 a.m.

Ron George

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Attachment 1.

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

BUREAU OF WILDLIFE MANAGEMENT ◆ 2001 Elmerton Avenue ◆ Harrisburg, PA 17110-9797

MEMORANDUM

DATE: March 21, 2000

SUBJECT: Selection of Webless Migratory Game Bird Research Projects

TO: Ronnie R. George, Chairman
MSUGB Working Group

FROM: Robert C. Boyd, Chairman
WMGBR Review Committee

Robert C. Boyd

Nationwide, 4 proposals totaling $283,755 were submitted to the 2000 Webless Migratory Game Bird Research (WMGBR) Program, requesting $135,635 in funds. These proposals were reviewed and ranked within four regions by regional technical committees. The WMGBR Review Committee further reviewed the proposals and the regional evaluations, and approved the highest priority projects as shown below.

> Development and Evaluation of Mourning Dove Population Models for Optimizing Harvest Management Strategies in the Central Management Unit, Eastern Management Unit, and Western Management Unit. David L. Otis, SC Cooperative Fish and Wildlife Research Unit, Clemson Univ., Clemson, SC, and Keith Guyse (AL), Dave Scott (OH), Ron Engel-Wilson (AZ), John H. Schultz (MO) and Jay Roberson (TX). WMGBR funds: $62,000; Total project cost: $100,000.
>
> Harvest Dynamics of South Carolina Mourning Doves. David L. Otis, SC Cooperative Fish and Wildlife Research Unit, Clemson Univ, Clemson, SC, and James Berdeen. WMGBR funds: $24,285; Total project cost: $64,855.

The total WMGBR cost of the two projects is $86,285. USFWS-MBMO has indicated they will be able to add the uncommitted balance of $63,715 to the $150,000 of next year's program.

The Review Committee would like to express its concern that the low number of proposals this year, along with unspent funds, is a reflection of insufficient funds to conduct webless game bird research on a national scale. Many researchers have discontinued submitting proposals because they see only a few projects being funded, and those are funded at a low level. Although we are grateful for the continuing base-line financial support from USFWS-MBMO, we submit that for the WMGBR program to succeed in providing much needed information for webless game species, all flyway councils, and the IAFWA's Migratory Shore and Upland Game Bird Working Group must urge full funding of the WMGBR program at the originally requested $750,000.

The WMGBR Review Committee consisted of myself, David Dolton, and the 4 Regional Technical Committee chairmen: Keith Guyse (AL), Southeast; John Dunn (PA), Northeast; John Schultz (MO), Central; and Tim Hinz (MT), Western. On behalf of the Review Committee, I greatly appreciate the efforts of all those persons who submitted proposals and who assisted with regional reviews.

Attachment 2.

Pertaining to:

Full funding for the Webless Migratory Game Bird Research (WMGBR) Program.

Recommendation:

The IAFWA, the Migratory Wildlife Committee, and the Migratory Shore and Upland Game Bird Working Group request that the USFWS fully fund the WMGBR Program at $750,000 annually as originally established.

Justification:

The WMGBR program was established in 1994 with the first projects being funded 1995; more than 30 research projects have been funded to date. Similar to the previous Accelerated Research Program (ARP), the WMGBR Program was designed to provide cooperative funding from the USFWS, state agencies, and other sources for critically important research on webless migratory game birds (e.g., doves, pigeons, cranes, woodcock, snipe, and rails).

Similar to ARP, the WMGBR Program has not achieved full funding as originally designed. Demonstrated needs under ARP showed that a stable annual funding level of $1,296,000 was necessary to address webless game bird information needs. ARP funding, however, amounted to only $250,000/year during 1967-1982. The WMGBR Program appears to be repeating the historical precedent but with less funding; i.e., funding at the $150,000 level. In the last 6 years the available WMGBR funds have exceeded $150,000 only 2 times:

1995 - $300K
1996 - $150K
1997 - $150K
1998 - $300K
1999 - $150K
2000 - $150K

Webless game bird information needs have not declined; rather, the need for science based information for management decisions has increased. Funding for these needs must become a high priority for the USFWS and the states.

Adopted by :

IAFWA-Migratory Shore and Upland Game Bird Working Group
Rosemont, Illinois
March 25, 2000

IAFWA Migratory Wildlife Committee
Rosemont, Illinois
March 26, 2000

Attachment 3.

Minutes for the
Committee To Evaluate the Harvest Information Program
March 23, 2000
By Dick Elden

Jeff Ver Steeg, Chair of the Committee to Evaluate the Harvest Information Program, opened the meeting with a welcome followed by a roll call and introductions. There were twenty-four people in attendance: State agency directors; agency licensing administrators; biologists, statisticians and private consultants. (See attached attendance list).

The chair reviewed the agenda, and discussed the committee's charge and rules of conduct for the committee. The committee will follow Roberts's rules. The committee's charge from the International Association of Fish and Wildlife (IAFWA) Migratory Shore and Upland Game Bird Working Group is:

> Evaluate the Harvest Information Program (HIP), report its findings and make recommendations to the Migratory Shore and Upland Game Bird Working Group at its March 2001 meeting.

Paul Padding gave a brief History of HIP and provided background information. Paul referenced the "Ad Hoc Committee Report on Waterfowl Breeding Ground and Migratory Bird Harvest Surveys" by E. G. "Red" Hunt, Peter S. Duncan and Kenneth M. Babcock that was adopted by the IAWA in 1990. The original intent was for the permit to be a national permit with material provided by the Fish and Wildlife Service for each state to issue to migratory bird hunters. A major change occurred when the Office of Management and Budget decided that it was a State Permit therefore the Service could not provide the materials. This shifted more of the financial responsibility to the States.

Duane Shroufe reminded the committee that the States collectively decided that this information was necessary due to the increasing threat to wildlife management and that the work of this committee is important to the IAFWA.

Prior to the meeting a small group from the committee developed 10 tasks as a starting point to meet the committees charge. The committee reviewed and discussed the tasks. Committee members were assigned to the tasks and lead a lead person was designated for each task. One task was dropped; reducing the number of tasks to 9. The 9 tasks and members assigned to each task are:

1. **Revisit the goals and objectives for HIP as set forth by the IAFWA in their earlier meetings to determine whether HIP is operating within the context defined by the IAFWA. If changes or modifications occurred, what prompted these changes and how were they approved?**

   Dick Elden (Lead), Duane Shroufe, Vernon Bevill and Paul Padding.

2. **Determine if the HIP screening questions provide information necessary to stratify the survey as envisioned.**

   Mary Moore (Lead) Steve Sheriff and David Cobb

3. **Determine the types, impact and scope of vendor non-compliance.**

   Steve Barton (Lead), Lynne Lange, Rebecca Games, Paul Berger, Paul Padding, Derrell Snipes, Vernon Bevill, (Robert Boyd or Valerie Kazakavage), Phil Seng and David Cobb

4. **Determine the types, impact and scope of hunter non-compliance.**

   Paul Padding (Lead) Steve Barton, Lynne Lange, Rebecca Games, (Robert Boyd or Valerie Kazakavage), Phil Seng and Derrell Shipes

5. **Determine the role and impact of the large chain store type license vendors, such as Wal-Mart, in the overall success or failure of HIP.**

   Derrel Shipes (Lead) Paul Padding, Steve Barton, Lynne Lange, Rebecca Games, Phil Seng and (Robert Boyd or Valerie Kazakavage)

6. **Determine the current reliability of the national surveys on hunted birds.**

   Steve Sheriff (Lead), John Schultz, Mary Moore, Brad Bales, Paul Padding, and Derrell Shipes

7. **Determine how HIP has impacted State level survey capability and reliability.**

   Brad Bales (Lead), Steve Sheriff, John Schultz and Derrell Shipes

8. **Evaluate the success/problems associated with different types of license systems on the quality of the data received.**

   Rebecca Games (Lead), Paul Padding, Mary Moore, (Bob Boyd or Valerie Kazakavage), Lynne Lange, and Steve Barton

9. **Determine the real cost of HIP as an ongoing responsibility of the States and the Service.**

   Paul Padding (lead), Steve Barton, Rebecca Games, (Robert Boyd or Valerie Kazakavage), and Vernon Bevill

Each task group is to develop a realistic time line to complete their task and to report back to Dick Elden by April 15, 2000. To avoid duplication of surveys and survey questions, task groups will coordinate surveys with Dick Elden. Each task group may reword their task if there is a need to clarify the task.

Dick Elden will send quarterly updates on the progress of the task groups and the HIP Committee to the HIP committee members, the chairs of each of the Flyway Councils, the chair of National Flyway Council, the Fish and Wildlife Service, the chair of the IAFWA Migratory Wildlife Committee and the chairs of the Working Groups of the IAFWA Migratory Wildlife Committee. A copy will also be given the IAFWA to include in the weekly mailing.

The next scheduled full committee meeting will be at the IAFWA meeting in September at Indianapolis.

Attachment 4.

Summary of Primary Discussion Points in the Eastern Management Unit Mourning Dove Workshop
October 19-20, 1999

Prepared by John Schulz and David Dolton

Similar to the Central Management Unit (CMU) mourning dove workshop, the majority of the first day focused on the current information and available tools for improving dove management. David Dolton presented an overview of the current harvest regulations process in the Western and Central Management Units, and the problems with the process in the Eastern Management Unit (EMU) along with concerns of the Southeastern Association of Fish and Wildlife Agencies (SEAFWA). Craig Hines provided details about the organization he founded called Doves Unlimited. Jim Nichols gave an overview of different population modeling approaches, and how modeling can be a useful tool for improving dove management and research decisions. John Sauer talked about the complexities and challenges of measuring population trends associated with both the Mourning Dove Call-count Survey (CCS) and the North American Breeding Bird Survey (BBS). Casey Stemler presented information about mourning dove recruitment. Dave Otis presented a summary of existing information on dove harvest rates, nonhunting mortality, and seasonal/annual survival estimates. Graham Smith reviewed the biological information demonstrating the need for continued management along Mourning Dove Management Unit boundaries. Mary Moore provided the group with an update of Migratory Bird Harvest Information Program (HIP). Jay Roberson shared information about the CMU mourning dove workshop in Oklahoma. John Schulz gave a presentation on the research planning process he uses in Missouri, and how question-driven research plans can help optimize research dollars to address complex and challenging management questions.

Group discussions at the end of the first day provided several valuable insights. The wide range of comments and suggestions during this session were characteristic of a relatively large group of biologists meeting for the first time and dealing with extensive and complex problems. Concerns and issues revolved around 3 general themes; (1) biopolitical issues dealing with flyways, management units, and state associations, (2) processes or methods for developing a harvest management strategy and an EMU dove management plan, and (3) issues dealing with precision and accuracy of available population monitoring tools.

The second half-day session provided a more structured framework for group discussions, and attempted to get the whole group moving in the same direction. First, we discussed the need for improving dove management in the EMU, or whether the status quo was sufficient. Several in the group questioned the sudden interest in dove harvest management, and the need for changing the status quo. Others felt it was important not to use a "crisis management" approach to justify the need for improved dove management not only in the EMU, but nationally. Justification for improved dove management based on declining population trends places the entire process in a negative connotation. If trends stabilize or increase under this type of management scheme, people will move on to the next crisis and forget about doves until a problem becomes a "crisis" once again.

The idea was expressed that justification for improving mourning dove management should be based on 2 simple ideas. First, mourning doves are an extremely valuable and important migratory game bird that have received comparatively little attention or financial resources with respect to management and research. Second, dove hunting is currently an under-utilized recreational resource that many states can use to provide more upland game bird hunting opportunities which, in turn, could be used to help stabilize or increase numbers of upland game bird hunters. For example, state agencies that manage shooting fields could have a longer hunting season by limiting the density of hunters, shooting hours, and/or bag limits. Additionally, states could provide more managed shooting fields near urban areas where people live. Improving our knowledge and mechanisms for dealing with mourning dove issues will help us make harvest management decisions with greater certainty. Although population trends have shown declines, we as professionals should be concerned about improving dove management because it's the right thing to do, not because we're reacting to decreasing population trends.

A consensus was eventually reached by workshop participants to improve dove management in the EMU. The next topic of discussion was how population modeling could be used to improve our understanding of mourning dove population processes and the effects of harvest on dove populations. John Schulz presented information on the draft mourning dove population modeling proposal, and the wide range of funding options currently being pursued. The proposal is requesting $100,000 for the 2-year project with outcomes of the effort to include population models for each of the 3 mourning dove management units. There was some confusion among workshop participants about the outcomes of the modeling process, and how the models would be used. There was a consensus by the group, however, to move toward population modeling as the beginning of a process to improve dove harvest management decisions. A copy of the proposal was distributed via e-mail to all participants.

To increase support for the population modeling effort, it has been suggested that each Flyway Council should pass a recommendation forward to the National Flyway Council supporting a national mourning dove population modeling effort. The recommendation would show the high priority states place on improving dove management decisions and may or may not include funding suggestions and recommendations. As the process proceeds during the next few months, it is imperative to remember that a strong show of support for this effort is more critical than the details of the funding.

Next, we broke up into small groups to address the following questions: *Where are we with dove management in the EMU?*, *Where do we want to be?*, *How are we going to get there?*, and *Did we make it?* Several ideas and themes were common among the groups, and will provide the basis for further discussions at upcoming meetings and workshops. Commonalities among the small groups included:

- Improve EMU coordination and communication to create organized and functional processes for developing and implementing mourning dove management decisions. One of the key factors, however, is that many state directors hold the key for allowing this process to move forward.
- Improve our understanding and update our knowledge base concerning the effects of harvest on populations, effects of habitat changes as landscape or microhabitat levels, and improve the precision and accuracy of population monitoring tools.
- We have an extensive body of information but it is dated, and population characteristics may have changed in the last 30-40 years.
- A strong desire among the states to maintain or expand current dove hunting opportunities.
- Issues dealing with urban dove populations and other subgroups or subpopulations of doves, and how harvest impacts those various groups of birds.
- The EMU dove management plan: who, what, when where?
- Assist current nonhunting dove states to implement dove hunting seasons.
- There was some uncertainty about the changes in dove management, and "fear of the unknown" concerning these possible management changes.

Attachment 5.

Recommendation to IAFWA: Conceptual support for the national mourning dove modeling study.

Recommendation: The IAFWA-Migratory Shore and Upland Game Bird Working Group and the IAFWA-Migratory Wildlife Committee supports, in concept, the national mourning dove modeling study which will use existing mourning dove population parameter estimates to develop first generation population models to help establish specific harvest management strategies as called for in the CMU Mourning Dove Management Guidelines.

Justification: Despite the fact that mourning doves are among the ten most ubiquitous and numerous bird species in the continental U.S., indices of population density have been declining during the past 30 years. The Call Count Survey (CCS) reveals significant ($P < 0.10$) declines in all management units during the periods 1966-98 and 1989-98. The North American Breeding Bird Survey (BBS) indicates similarly significant declines in the Central Management Unit (CMU) and the Western Management Unit (WMU), but not in the Eastern Management Unit (EMU), during approximately the same time periods. The BBS also shows significant declines in the continental U.S. In the past few years, several groups have begun calling for development of a more active and rigorous harvest management strategy for doves (e.g., CMU Mourning Dove Management Guidelines, CMU Mourning Dove Workshop Proposal, EMU Mourning Dove Workshop, correspondance from USFWS Migratory Bird Management Office). These documents or events all describe the need to develop one or more population models to predict effects of different harvest prescriptions on long term population and harvest levels, and ultimately define decision criteria for implementing these alternative harvest strategies. Such a modeling effort would represent an initial step in an improved decision making process for mourning doves, and would begin to place mourning dove harvest management in an objective and quantitative framework. Upon completion of the project, we expect to have advanced the process of developing an improved system of dove harvest management by 1) improving our understanding of dove population dynamics, 2) prioritizing population monitoring data needs within the context of a long term harvest management system, 3) identifying critical information gaps that currently constrain development of more useful and realistic population models, and 4) motivating technical committees, flyway councils, and state and federal agencies to continue pursuit of an integrated and formal system of dove management. See the attached project proposal for details.

Adopted by :

IAFWA Migratory Shore and Upland Game Bird Working Group
Rosemont, Illinois
March 25, 2000

IAFWA Migratory Wildlife Committee
Rosemont, Illinois
March 26, 2000

Attachment 6.

Recommendation to IAFWA: New population monitoring surveys for mourning doves.

Recommendation: The IAFWA-Migratory Shore and Upland Game Bird Working Group and the IAFWA-Migratory Wildlife Committee recommends that the U.S. Fish and Wildlife Service in cooperation with all the states 1) Develop an annual parts collection survey, 2) Explore the feasibility of an extensive banding/reporting program for the 3 mourning dove management units.

Justification: Previous discussions from the mourning dove workshops in the Central and Eastern management Units along with Southeastern Association Dove Technical Committee and Director's Committee have demonstrated agreement to take a comprehensive and coordinated approach to improve future dove harvest management decisions. Specifically, a population trend index is insufficient for justifying harvest regulations changes without corroborating estimates of annual recruitment and survival.

Historically, mourning dove management has been management by default because few harvest regulation changes have been made, and populations have been stable or only decreasing regionally, Recently, long-term population trend declines have been notes in all 3 mourning dove management units, and approaches have been reactive rather than proactive. To improve mourning dove harvest management by reducing the uncertainty in the decision making process, steps must taken to rely on multiple biologically important population parameters rather than changes simply in population trends; i.e., a parts collection survey for recruitment index and a banding/reporting program for a survival index.

Adopted by :

IAFWA Migratory Shore and Upland Game Bird Working Group
Rosemont, Illinois
March 25, 2000

IAFWA Migratory Wildlife Committee
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March 26, 2000

Attachment 7.

Proposed National Conservation Need:

Establish and Enhance Population Monitoring and Habitat Assessments for Webless Migratory Game Birds

Submitted by: The Migratory Shore and Upland Game Bird Working Group
International Association of Fish and Wildlife Agencies

NEED: Webless migratory game birds provide millions of hunter days of recreation each year across the United States. Mourning doves alone provide 1.9 million hunters with 8.8 million days of recreation annually (Tacha et al. 1993). In addition, species such as the sandhill crane are among our most watchable wildlife. Yet, population estimates, productivity and habitat inventory data are not being collected for many of the webless species.

RELATIONSHIP TO GUIDELINES: Enhanced survey and monitoring protocols will greatly increase the ability of local, tribal, state, and federal wildlife resource agencies to effectively manage key migratory game bird species. For example, although mourning dove and woodcock population trends are monitored by the National Call Count Survey, and Singing Ground Survey, respectively, questions have been raised concerning the validity of the resulting trend estimates. In addition, data on mourning dove recruitment and survival are required to insure that hunting season and bag limit regulations are consistent with population goals. Due to the migratory nature of these species, protocols need to be established that are consistent and can be implemented across political boundaries.

EXPECTED BENEFITS: The establishment and enhancement of survey and monitoring protocols for webless migratory birds will allow resource management agencies to: 1) establish baseline population estimates for species that are not currently monitored, such as the common snipe, common moorhen, purple gallinules, or any of the 4 species of rails; 2) improve existing survey methodologies to better delineate habitat availability and to increase the precision of estimates of critical population parameters (e.g., survival rates, recruitment, recovery rates, population indices).

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Attachment 8.

Eurasian Collared- Dove

The newest bird on many life lists is showing up at backyard feeders as it expands its range

by Julie Craves

In the summer of 1993, a Whiskered Tern was spotted along the Atlantic coast, the first time this species had occurred in North America. Two friends and I drove all night to join other bleary-eyed birders searching for this transoceanic traveler. Crammed amid scores of observers and a million dollars worth of optical equipment, we soon added the tern to our North American life lists. That's the scenario for most "first" bird records: rare bird alerts sizzle and birders dash off in eager pursuit of the staked-out rarity.

One of the latest additions to the country's avifauna, however, slipped in virtually unnoticed. This notable newcomer is the Eurasian Collared-Dove (*Streptopelia decaocto*).

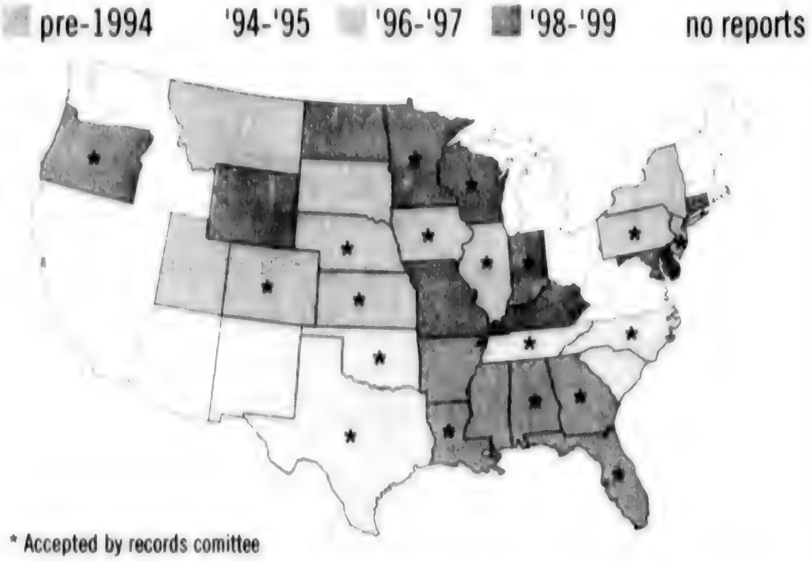
As its name implies, the Eurasian Collared-Dove is not native to the New World. The species originated in India and is now found widely across Europe and Asia. Although the dove has broadened its range largely on its own, our general disdain for introduced and exotic species has resulted in many pioneer Eurasian Collared-Doves being overlooked — due in part to their similarity to the domesticated Ringed Turtle-Dove. In fact, some unsuspecting homeowners have hosted Eurasian Collared-Doves at feeders for months or years before realizing a new species was present.

The lookalike Ringed Turtle-Dove has been kept as a caged bird for thousands of years, assuming a prominent role in many cultures. Turtle-doves are still released today at weddings and other events; liberated or escaped birds are not uncommon in the wild, where they depend on human handouts. Unless fed persistently and bolstered by additional releases, Ringed Turtle-Doves usually fail to establish feral populations. Outside a few long-standing colonies, most pop up in backyards or parks across the country, leading to cases of mistaken dove identity.

The Eurasian Collared-Dove and Ringed Turtle-Dove are two of ten species of ring-necked doves. (The Ringed Turtle-Dove is believed to be a derivative of the African Collared-Dove.) Each has a dark half-collar on the back of the neck, which plays a part

A6

in head-bowing courtship displays. Previously, many birders paid little attention to groups of ring-necked doves because they assumed they were all Ringed Turtle-Doves. In Florida, a state with a profusion of exotic species, ring-necked doves were reported in Homestead and parts of the Keys in the late 1970s. It wasn't until 1985, however, that observers identified some of these birds as Eurasian Collared Doves — sparking interest, speculation, and even alarm.



* Accepted by records comittee

Data for this map of reported sightings were compiled from a variety of sources, including online birding networks; rare bird alerts; and publications such as state ornithological journals, *North American Birds*, and *Winging It*.

"Accepted" indicates that the reported sighting has been reviewed by the state bird records committee, accepted, and placed on the state checklist. Some states do not have functioning records committees.

RANGE EXPANSION

The Eurasian Collared-Dove's colonization of this side of the world began in the Bahamas. In the early 1970s, a Nassau pet dealer wishing to obtain ten pairs of "ringed-necked doves" for breeding acquired Eurasian Collared-Doves from Europe. After vandals liberated some of this stock in 1974, the dealer released the remaining birds, about fifty individuals. Several months later the birds were nesting in the wild, and they soon spread to other nearby islands. Over time, they presumably made the hop from the Bahamas to Florida to finally be "discovered" in the mid-1980s.

When a few Eurasian Collared-Doves wind up someplace, they are not few for long. The presence of some well-established, expanding populations in Florida raised both binoculars and eyebrows in light of the bird's conquest of Europe. From their origins in India, Eurasian Collared-Doves have colonized most of Europe, beginning with an impressive push in the 1930s from a long-static range in the Balkans. A spectacular expansion of 1200 miles in two decades put the species in Great Britain by 1952.

Four nesting Eurasian Collared-Doves in Great Britain in 1955 turned into nearly 19,000 by 1964 and around 200,000 by 1972. Today, there are nearly half a million birds. Their numbers may have reached equilibrium in northwestern Europe, but populations are still expanding to the northeast and to the southwest. From the European example, one can imagine the potential for widespread occupation in North America.

What prompted the doves' sudden proliferation across Europe after centuries of stability? No one knows the precise reason, but the spread of agriculture and settlements in the Danube River valley may have provided a chain of opportunity for expansion. It has also been suggested that some sort of genetic alteration within the species may have been a contributing factor in the doves' wanderlust and range expansion.

Biologists believe that adult breeding birds are essentially resident and that young birds are the ones that colonize new areas through dispersal in spring and summer. They often make a leap of several hundred miles, then backfill the area between the source and new populations. Both the European and North American invasions have followed a northwesterly orientation, perhaps a function of geography. Eurasian Collared-Doves have now been seen in over thirty states (see map above and http://www.birdsource.com/features/eucdov/index.html), and new colonies of doves are being found nearly monthly.

H. & J. Eriksen/VIREO

Like other members of the pigeon family, the Eurasian Collared-Dove has short legs and sturdy feet, effective for foraging on the ground.

Eurasian Collared-Doves tend to avoid natural habitats and favor suburban areas. As a result, there has been limited competition with most native species.

FAMILY LIFE

Eurasian Collared-Doves breed within two years of colonizing an area. These doves appear to be highly motivated — Indiana's first bird was observed attempting to mount Mourning Doves and an immature grackle. They prefer to nest in conifers, usually at a height of between 15 and 30 feet. As is typical of this family, males bring twigs and similar nest materials to the female,

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Eurasian Collared-Dove vs. Ringed Turtle-Dove

The Eurasian Collared-Dove has only recently been included in North American field guides. While this newcomer is unlikely to be confused with the slightly smaller Mourning Dove, they are often mistaken for domestic Ringed Turtle-Doves. In general, Eurasian Collared-Doves are larger and stockier than Ringed Turtle-Doves, with proportionally larger heads and longer and broader tails. While Eurasian Collared-Doves tend to be grayish, they are sometimes a creamy-buff like the typical Ringed Turtle-Dove. Ringed Turtle-Doves also come in a range of plumages, including white, rosy, pied, and tangerine.

The best way to tell these species apart is by voice. The Eurasian Collared-Dove has a trisyllabic call described as ***kuk-koooOO-kook***, often given in a series. Ringed Turtle-Doves have a mellow, rolling call, preceded by a sharp first ***cook*** note, then rising and descending. Alarm notes are also quite different. The Eurasian Collared-Dove has a harsh screaming call, almost always given in flight, which sounds somewhat like a loud nasal catbird's *mew*. Ringed Turtle-Doves produce a soft jeering laugh, which is nearly always given while perched or on the ground.

Other distinguishing field marks and characteristics include:

Wing feathers: Eurasian Collared-Doves have dark gray or black primaries that contrast with the rest of the wing. This feature can often be seen even when the bird is at rest, but it is most pronounced in flight, where the bird will appear to have a tricolored upper wing surface. Ringed Turtle-Doves have gray primaries that are usually not much darker than the rest of the wing.

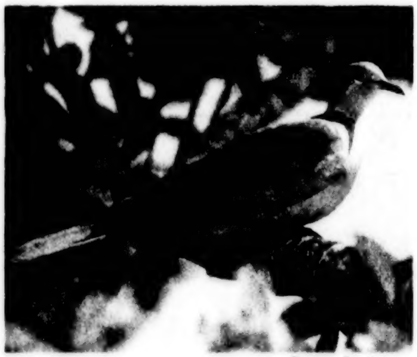
Underside of tail: Both species have tail feathers that are black near the base and white to the tip. In the Eurasian Collared-Dove, the black portion ends at the tips of the undertail coverts. In the Ringed Turtle-Dove, the black rarely reaches the tips of the coverts.

Tail shape: Eurasian Collared-Doves have long, rounded or squared-off tails, while Ringed Turtle-Doves have more pointed tails, although the shape can vary.

Behavior: Eurasian Collared-Doves are much more wary and skittish, and tend not to allow close approach. Instead, they will usually fly off to a perch where they can observe their surroundings. Fear of large moving objects appears to have been bred out of Ringed Turtle-Doves, which are reluctant to fly when approached.

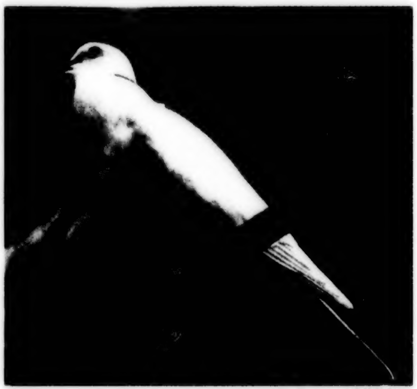
While sexes and ages are essentially alike, there is some variation in plumage related to the bird's age, its sex, and the season. Also, hybrids of these two closely related species are not unusual and can further confound identification.

ID TIPS



Brian E. Small

Eurasian Collared-Dove; note the black wing tips



S. Fried/VIREO

Ringed Turtle-Dove; note the gray primary feathers

who constructs a fairly crude nest. Like most pigeons and doves, they nearly always have a clutch of two white eggs; small clutch sizes are offset by multiple broods (two to six, with three most common). In warmer climates, breeding can occur nearly year-round; the most frequent exception is during fall molt. In Florida, Eurasian Collared-Doves have nested every month of the year except January.

Both sexes share incubation duties and brood and feed the young. The first few days of life, chicks are fed "pigeon milk," the highly nutritious, sloughed-off, and regurgitated crop lining of the adults. Over time, small seeds and other food items are added to the diet of the young, which fledge in 15 to 17 days. Some young return to the nest for a short while after fledging. By this time, the nest is encrusted with droppings; unlike most passerines, Eurasian Collared-Doves do not remove the young birds' feces.

WHAT'S NEXT?

The impact of this newcomer on native species is still unknown. There is conflicting evidence that Mourning Doves have declined in some areas where Eurasian Collared-Doves have been present and increasing. Since the birds tend to avoid natural habitats and favor suburban areas, there has been limited competition with most native species. Whether the Eurasian Collared-Dove comes to be regarded as a pest or as a benign addition to our avifauna remains to be seen.

Remarkably little has been studied about this abundant, widespread, and easily observed bird. Ornithologists have a rare opportunity to document and study the occupation of new territory by a new species, record the direction and manner of dispersal, inventory local population build-ups, and observe the effect on native species and ecosystems. Birders involved in citizen science efforts such as Project FeederWatch or the Christmas Bird Count can get involved by reporting backyard sightings of Eurasian Collared-Doves.

So be on the lookout — Eurasian Collared-Doves may soon be a coming attraction at a feeder near you!

MIGRATORY SHORE AND UPLAND GAME BIRD WORKING GROUP
MEMBERS – 2000

Member	Affiliation
¤ Ronnie R. George, Chairman	Texas Parks and Wildlife Department
¤ John Frampton, Vice-chairman	South Carolina Department of Natural Resources
¤ David D. Dolton, Secretary	U.S. Fish and Wildlife Service
¤ Robert Abernethy	The National Wild Turkey Federation, Inc.
¤ Jon Andrew	U.S. Fish and Wildlife Service
¤ Brad Bales	Oregon Department of Fish and Wildlife
¤ W. Vernon Bevill	Texas Parks and Wildlife Department
¤ Robert Boyd	Pennsylvania Game Commission
Greg Chasko	Connecticut Department of Environmental Protection
¤ James M. Corven	Manomet Observatory for Conservation Sciences
¤ Daniel R. Dessecker	The Ruffed Grouse Society
Jim Douglas	Nebraska Game and Parks Commission
¤ Richard Elden	Michigan Department of Natural Resources (retired)
William H. Goudy	The Ruffed Grouse Society
¤ David Hayden	Alabama Department of Conservation and Natural Resources
Jerry Jacobs	Bureau of Reclamation
¤ Mike Johnson	North Dakota Game and Fish Department
¤ Joe Kramer	Kansas Department of Wildlife and Parks
¤ Sam Lawry	Arizona Game and Fish Department
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¤ Larry Marcum	Tennessee Wildlife Resources Agency
¤ Daniel G. McAuley	USGS-BRD, Patuxent Wildlife Research Center
¤ Ross Melinchuk	Ducks Unlimited, Inc.
Ralph Morgenweck	U.S. Fish and Wildlife Service
Mike Olinde	Louisiana Department of Wildlife & Fisheries
¤ Cynthia Ragland	USDA Forest Service
¤ Ralph Rogers	North American Falconers' Association
¤ Pat Ruble	Ohio Division of Wildlife
¤ John H. Schulz	Missouri Department of Conservation
¤ Duane L. Shroufe	Arizona Game and Fish Department
¤ John W. Smith	Missouri Department of Conservation
William F. Stevens	Federal Cartridge Company
¤ Jeff Ver Steeg	Illinois Department of Natural Resources
¤ James R. Woehr	Wildlife Management Institute
¤ Scott Yaich	Arkansas Game and Fish Commission

¤ Attended meeting on March 25, 2000.

END

02-13-04